

WHAT IS CLAIMED IS:

1. An inductive element comprising:
 - a magnetic core having a central elongated portion and two end portions, each said end portion defining an end portion planar surface; and
 - a winding wound about said elongated portion, where the outer surface of said winding defines a planar surface that is coplanar with each said end portion planar surface so as to facilitate surface mounting of said magnetic core and winding on an adjacent structure.
2. An inductive element comprising:
 - a first magnetic core having a central elongated portion and two end portions, each said end portion defining an end portion planar surface;
 - a first winding wound about said elongated portion, where the outer surface of said first winding defines a planar surface that is coplanar with each said end portion planar surface; and
 - a mounting frame to secure the wire ends of said first winding and to enable said first core and first winding to be surface mounted on an adjacent structure such that a portion of the planar surface of said adjacent structure is in contact with said end portion planar surfaces and said first winding planar surface to enhance heat transfer to said adjacent structure from said inductive element.
3. The inductive element of Claim 2, wherein said adjacent structure is a printed circuit board and wherein said mounting frame further comprises posts for terminating the ends of said first winding adjacent to said printed circuit board.
4. The inductive element of Claim 2, wherein said elongated portion has an approximately rectangular cross-sectional shape.
5. The inductive element of Claim 2, wherein said first winding is wound along approximately the entire length of said elongated portion of said core.
6. The inductive element of Claim 2, further comprising:
 - a second magnetic core having an elongated portion and two end portions, each said end portion of said second core defining an end portion planar surface;

a second winding wound about said elongated portion of said second core, where the outer surface of said second winding defines a planar surface that is coplanar with each said second core end portion planar surface, and wherein said mounting frame further secures the wire ends of said second winding and is shaped to affix said first core end portions against corresponding second core end portions and such that the coplanar surfaces of said first core end portions and said first winding are coplanar with the coplanar surfaces of said second core end portions and said second winding.

7. A transformer comprising:

first and second magnetic cores each having a central elongated portion and two end portions, each said end portion defining an end portion planar surface;

a winding about each said elongated portion of said two magnetic cores, where the outer surface of each winding defines a planar surface that is coplanar with each said end portion planar surface of its respective core; and

a material for affixing the end portions of said first and second magnetic cores together such that the end portion planar surface of each end portion of said first core is coplanar with the end portion planar surface of each end portion of said second core.

8. The transformer of Claim 7, further comprising:

a mounting frame surrounding said first and second cores, wherein said mounting frame secures the wire ends of each said winding and enables said first and second core to be surface mounted on an adjacent structure such that a portion of the planar surface of said adjacent structure is in contact with said end portion planar surfaces and the planar surfaces of each said winding to enhance heat transfer to said adjacent structure from said transformer.

9. The transformer of Claim 8, wherein said adjacent structure is a printed circuit board and wherein said mounting frame further comprises posts for terminating the ends of each said winding adjacent to said printed circuit board.

10. The transformer of Claim 7, wherein each said elongated portion has an approximately rectangular cross-sectional shape area.

11. A method of forming an inductive element from a core having a central elongated portion and two end portions for mounting to an adjacent structure, comprising:

forming a winding of wire about said central elongated portion of said core to create a surface on said winding that is coplanar with a surface on each said end of said core; and

mounting said core in a mounting frame including securing the wire ends of said winding to posts on said mounting frame.

12. The method of Claim 11, wherein said core comprises a first core and wherein said method further comprises the steps of:

forming a second winding of wire about a central elongated portion of a second core to create a surface on said second winding that is coplanar with a surface on each said end of said second core; and

joining said first core to said second core such that the coplanar surfaces of said first core are coplanar with the coplanar surfaces of said second core.